

Video description

Narration Text

Narrator. Title image with foam background.
Video of Rick Demmer mixing foam, glove boxes, contaminated structures, or contaminated sites.

The gelatin used in Jell-O is making a special contribution to cleaning buildings, equipment and structures at America's contaminated sites.

Rick Demmer, on camera, in lab and mixing and spraying foam.

"In thinking about DARPA's challenge to create innovative solutions for cleaning contaminated surfaces, our team needed a stable foam to keep the chemicals in place to do their work. After many tests, we discovered that gelatin, the main ingredient used in Jell-O worked well in making a proper foam."

Narrator.
Move to R. Demmer spraying foam, then to images of applying foam.

This discovery advanced INL's research efforts in creating Rad-Release, a two-part breakthrough that removes radioactive and concentrated metals from various surfaces.

Narrator.

DARPA and NHS logos, plus the RFP Notice.

DARPA and the Department of Homeland Security were seeking innovative technologies in case of a radioactive dispersal device detonation.

Narrator.

Photo of team

Move to video of team in laboratory

Seven INL researchers responded, perfecting a foam and clay extraction process effective in removing even the most radioactive contaminants, including transuranics.

Narrator.

Video of applying foam, then move to animation and graphic with 2 Parts listed:

Part 1

1. Apply Foam
2. Vacuum Foam

Part 2

1. Apply Clay-Salt Combination
2. Remove, Package Clay for Disposal

Part 1 involves applying a specifically blended chemical foam to contaminated surfaces, then letting the reagent process work for two hours.

Narrator. R. Demmer vacuuming foam, then returning to animation of foam process.

Next, a vacuum is used to remove the foam taking with it at least 50 percent of the contaminants. If

additional decontamination is necessary, the second part of the technology is employed.

Narrator.
Karen Wright demonstrating Part 2 (Apply Clay-Salt application), then move to animation of part 2.

Part 2 involves applying wet clay saturated with potassium chloride to extract the contaminants hiding in the subsurface pores and capillaries. This process involves a slow mass transfer, where contaminant particles seek equilibrium by spreading from higher to lower concentrations in the clay.

Narrator. Return to clay application process, and spray application video.

This slow process takes two to six weeks, depending on the type of contaminant. For large application areas, clay can be sprayed on with commercial sprayers.

Narrator.

Back to animation with two parts noted,
then to K. Wright removing clay.

**Finally, clay with contaminants is
removed and packaged for
appropriate, safe disposal.**

Narrator.

Animated charts of contaminant removal
over time.

**The application of Rad-Release foam
can remove 50 percent of
contamination in just two hours. If
the clay is applied in addition to the
foam, 80 percent can be removed in
one day, 88 percent in one week,
and 95 percent in six weeks.**

Karen Wright on camera in lab.
Move to field testing footage or still
images.

***“Rad-Release has won several
competitions, including an
international contest against
German, British and Canadian
technologies. It also removed 30-50
percent more contamination than
the best technologies offered by
U.S. national laboratories and
companies.”***

Narrator.
EPA logo, page one of the report.

EAI logo.
Move to footage or stills of
decontamination activities, maybe some of
Argonne or West Valley, NY.

**In a 2010 EPA study, *Rad-Release*
removed 71 percent of the
contamination. Licensee
Environmental Alternatives, Inc. has
successfully removed up to 95
percent of contamination in glove
boxes and hot cells at Argonne
National Laboratory and West
Valley, New York.**

Narrator.
Return to R. Demmer applying foam. Then,
graphic detailing benefits, quickly moving
through each point

***Rad-Release* –**

- **Returns facilities to use,**
- **Is non-destructive**
- **Reduces processing costs,**
- **Uses inexpensive materials,**
- **Treats all radionuclides, including transuranics,**
- **Minimizes waste costs and volume, and**
- **Reduces worker exposure to contaminated materials.**

***Rad-Release* removes 30-50 percent
more contaminant than any other
technology, but boasts a dozen or
more advantages, including:**

- **Returns buildings, equipment
and structures to use,**
- **Is non-destructive,**
- **Reduces costs in processing,**
- **Uses inexpensive materials,**
- **Treats all radionuclides,
including transuranics,**
- **Minimizes waste costs and
volume, and**

- **Reduces worker exposure to contaminated materials.**

Karen Wright on camera.

***Rad-Release* is a major breakthrough in cleaning up contaminated surfaces. It is effective and without a doubt has earned the designation as “The Reagent of Choice.”**

End Graphic: animated INL logo

END